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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,678	08/31/2001	Atsushi Yamaguchi	110533	9275

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/01/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,678

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Nikolas J. Uhlir

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 6-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the request for reconsideration/arguments dated 6/05/03. The examiner has carefully considered the applicant's arguments with respect to the prior applied 35 U.S.C 102(e) rejection of claims 1 and 5 over Osaka et al. (Osaka) but has found these arguments to be unpersuasive for the reasons set forth below in the section entitled "Response to Arguments." The examiner hereby maintains the prior rejection.

Election/Restrictions

2. Applicant's election with traverse of claims 1 and 5 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that the inventions are sufficiently interrelated to warrant examination in a single application, and are so closely related that a search of one group would necessarily encompass a search of the subject matter of the remaining group. This is not found persuasive because the inventions are not so interrelated as to require the same search. Claims 1 and 5, directed towards a product classified in class 428 subclass 692 would not require the same search as claims 2-4 and 6-8, which are classified in class 205, subclass 80+, as evidenced by the fact that these inventions are classified in completely different classes.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being unpatentable over Osaka et al. (US6120918).

5. Regarding the limitations of claim 1, wherein the applicant requires a cobalt-nickel-iron (hereafter CoNiFe) thin film containing 60-75% by weight cobalt, 10-20% by weight nickel, and 10-20% by weight iron, wherein the thin film has a crystal structure that is a mixture of bcc and fcc phases, wherein I_b/I_f is in the range of 0.3-0.7 inclusive, where I_b represents the intensity of an X-ray diffracted from a (110) plane of the bcc phase, and I_f represents the intensity of an X-ray diffracted from a (111) plane of the fcc phase.

6. With respect to these limitations, Osaka et al. (hereafter Osaka) teaches a CoFeNi thin film that comprises 40-70% by weight cobalt, 20-40% by weight Fe, and 10-20% by weight Ni, wherein the magnetic thin film comprises a mixture of fcc and bcc crystal structures (column 2, lines 17-14). In a specific embodiment, Osaka teaches a film that comprises 20% by weight Fe, 65% by weight Co, and 10% by weight Ni, said film exhibiting a mixture of fcc and bcc crystal structures (figure 6). Although Osaka does not explicitly teach the applicants required I_b/I_f ratio, the examiner takes the position that the x-ray diffraction properties (which I_b and I_f represent) are met by Osaka. The applicants are directed to Tables 2 and 3 in Osaka, wherein the composition of the plating bath utilized to form the CoNiFe films is detailed, particularly

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the point wherein Osaka details that the pH of the plating baths utilized to form the CoNiFe is shown to be 2.8 and 2.5 respectfully. The applicants have correctly cited in their argument that the Ib/If ratio is dependent on pH, as shown by figure 14 of the instant specification. Figure 14, clearly shows that CoNiFe films having the recited composition that are formed from plating baths having a pH between 2.4 and 3.6 exhibit Ib/If ratios within the applicants claimed range. Thus, as the plating baths of Osaka that are utilized to form the CoNiFe films have a pH in this range, and the fact that at least one example of Osaka meets the composition required by the instant application, the examiner takes the position that the CoNiFe films of Osaka will necessarily meet the applicants claimed Ib/If ratio.

7. Regarding the limitations of claim 5, wherein the applicant requires a magnetic head having a specific structure. Figure 5 and column 4, lines 47-64 of Osawa et al. detail a magnetic head incorporating a CoFeNi film that meets all of the applicants claim 5 limitations. The Ib/If ratio is met as set forth above for claim 1.

Response to Arguments

8. The examiner has carefully considered the applicant's arguments with respect to the 102(e) rejection of claims 1 and 5 over Osaka. The applicant's have argued on the record that Osaka does not teach each and every limitation of the instantly claimed invention in a specific embodiment and thus cannot anticipate the instant invention. In particular, the applicant's assert that Osaka does not teach an embodiment wherein the applicants claimed amount of Fe is met, and is completely silent with respect to the applicant's required Ib/If ratio. Furthermore, applicants assert that the claimed Ib/If ratio

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is not necessarily obtained simply by having the same composition, as it is dependent on the pH of the electroplating bath utilized to form the film.

9. This argument is unpersuasive. Regarding the applicant's argument relating to the composition of Osaka, it is noted that Osaka clearly teaches that a specific embodiment that meets the applicants claimed composition. As shown in figure 6, at least one CoNiFe film formed by Osaka has a composition that clearly meets the applicants claimed Co and Ni content, and clearly overlaps the line delineating a composition containing 20% Fe. For clarity, this example is represented on figure 6 by a circle with a dot in the center, and is the higher of two such circles that overlaps the line marking a composition containing 20% Fe. Furthermore, if the applicant still traverses this assertion, the examiner notes that Osaka teaches in the specification that a composition containing 20% Fe is suitable for forming the invention (column 2, lines 17-25), and even goes so far as to claim such a composition in claim 1. The recitation of the exact endpoint (20% Fe) in the claims explicitly shows that a composition containing the required amount of Iron is clearly anticipated by Osaka.

10. With respect to the applicants argument with respect to the I_b/I_f ratio. This argument is unpersuasive over two points. 1. The applicants have not compared the closest prior art to that of the instant invention, and thus have not provided a definitive showing that the prior art cited will not necessarily have the required I_b/I_f ratio. 2. The applicants have correctly cited in their argument that the I_b/I_f ratio is dependent on pH, as shown by figure 14 of the instant specification. Figure 14, clearly shows that CoNiFe films having the recited composition that are formed from plating baths having a pH

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between 2.4 and 3.6 exhibit lb/lf ratios within the applicants claimed range. As the plating baths of Osaka that are utilized to form the CoNiFe films have a pH in this range as stated above, and because at least one example of Osaka meets the composition required by the instant application, the examiner maintains that the CoNiFe films of Osaka will necessarily meet the applicants claimed lb/lf ratio.

11. The applicants additionally have argued unexpected results, reciting that the film of the instant invention unexpectedly achieves a saturation flux density of 1.7 T or more "consistently." This argument is unpersuasive in light of the fact that the CoNiFe film of Osaka is specifically taught to have a saturation flux density of 1.9-2.2 T (column 8, lines 54-65).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

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nju
June 27, 2003

Paul Thibodeau
Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700